

Remarks

Applicant respectfully requests that this Amendment After Final Action be admitted under 37 C.F.R. § 1.116.

Applicant submits that this Amendment presents claims in better form for consideration on appeal. Furthermore, applicant believes that consideration of this Amendment could lead to favorable action that would remove one or more issues for appeal.

No claims have been amended. No claims have been cancelled. Therefore, claims 1-3, 5-13 and 16-27 are presented for examination.

Claims 1, 5, 12, 16, 10, 11, 19, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Katsura (U.S. Patent No. 6,628,962) in view of Wood et al. (U.S. Patent No. 5,754,159). Applicants submit that the present claims are patentable over Katsura in view of Wood.

Katsura discloses a PDA having a front surface body and a back surface body with both connected by a hinge. Thus, an end of the front surface of the body is maintained in free rotation by the back surface of the body and may be maintained in an optional stationary position. An antenna is mounted on the inside of the front surface of the front surface body. Specifically, the antenna is a wire antenna mounted on the outer rim of the display screen 2 and is formed by printing, deposition or transferal. See Katsura at Figures 4 and 5.

Wood discloses an integrated liquid crystal display and backlight system for generating video images for a portable computer comprising a top glass, a bottom glass and a thin film transistor and liquid crystal layer disposed therebetween, a diffuser

bonded to the bottom glass on the side opposite the top glass, a substrate bonded to the diffuser opposite the bottom glass having an array of semispherical cavities each having an aluminized surface, a phosphor layer coating the aluminized surfaces, an array of indium tin oxide conductors electrically connected to the aluminized surfaces and disposed within the cavities, and a volume of mercury gas filling the cavities such that when a voltage is established between the aluminized surfaces and the indium tin oxide conductors, the phosphor becomes excited and produces backlight for the liquid crystal display system. See Wood at Abstract.

Claim 1 of the present application recites:

A handheld computing device comprising:
a housing;
a display mounted on the housing; and
an antenna located on a top glass layer of the display.

Applicants submit that neither Katsura nor Wood disclose or suggest an antenna located on a top glass layer of a display. Instead, Katsura discloses an antenna mounted on at the body of the PDA, which surrounds the outer rim of the display screen. As a result, the antenna in Katsura is not mounted on a top glass layer of the display. Moreover, Wood discloses an integrated liquid crystal display and backlight system for generating video images for a portable computer. However, there is no disclosure or suggestion in Wood of an antenna located on a top glass layer of a display.

In the Final Office Action, the Examiner reads “‘provided on the outer rim of the display screen’ as being mounted on the top layer of the display.” See Final Office Action at page 7, paragraph 10. Further, the Examiner “notes that Wood is used to teach that the display may be made of glass.” Id. Applicants respectfully submit that Katsura

already discloses a display screen 2, ostensibly made of some sort of glass material.

However, *the antenna in Katsura is not mounted on the display screen 2, but instead on a communication body 14 that surrounds the glass material of the display screen.* Thus, the combination of Wood with Katsura would continue to fail to disclose the antenna being located on a top glass layer of a display.

Because both Katsura and Wood fail to disclose or suggest an antenna located on a top glass layer of a display, any combination of Katsura and Wood would also fail to disclose or suggest an antenna located on a top glass layer of a display. Thus, claim 1 is patentable over Katsura in view of Wood. Claims 2, 3 and 5-11 depend from claim 1 and include additional features. Therefore, claims 2, 3 and 5-11 are also patentable over Katsura in view of Wood.

Claim 12 recites “A method comprising, mounting an antenna on a top glass layer of a display of a computing apparatus.”

Thus, for the reasons described above with respect to claim 1, claim 12 is also patentable over Katsura in view of Wood. Since claims 13, 14 and 16-20 depend from claim 12 and include additional features, claims 13 and 16-20 are also patentable over Katsura in view of Wood.

Claim 21 recites:

A handheld computing device comprising:
a display;
a radio frequency (RF) transceiver mounted on the display; and
an antenna, coupled to the RF transceiver, mounted on a top glass layer of the display.

Therefore, for the reasons described above with respect to claim 1, claim 21 is also patentable over Katsura in view of Wood. Because claims 22-27 depend from claim

21 and include additional features, claims 22-27 are also patentable over Katsura in view of Wood.

Claims 2, 3, 13, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Katsura in view of Wood, as applied to claims 1 and 12 above, and further in view of Kuroe et al. (U.S. Patent No. 6,028,748). Applicants submit that the present claims are patentable over Katsura and Wood even in view of Kuroe

Kuroe discloses a magnetic head unit of the present invention is provided with a magnetic head having a magnetic impedance element, and a head suspension for suspending the magnetic head is provided with a matching transmission line of one-fourth wavelength for transmitting a high-frequency signal output from the magnetic head. See Kuroe at Abstract. Nonetheless, Kuroe does not disclose or suggest an antenna mounted on a top layer of a display. As discussed above, Katsura and Wood do not disclose or suggest an antenna mounted on a top layer of a display. Thus, any combination of Katsura, Wood and Kuroe also would not disclose or suggest an antenna mounted on a top layer of a display. Accordingly, the present claims are patentable over Katsura and Wood in view of Kuroe.

Claims 6, 7, 17, and 18, 21, 26, and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Katsura in view of Wood and further in view of Carson et al. (U.S. Patent No. 5,705,855). Applicants submit that the present claims are patentable over Katsura even in view of Carson.

Carson discloses an integrated circuit for attaching to a glass substrate that includes an integrated circuit die having circuitry formed thereon. The integrated circuit has cavities formed in a first surface, and metal layers formed adjacent to the integrated

circuit die and within the cavities are coupled to the circuitry. Conductive bumps, which are formed from a material that adheres to glass, are deposited within the cavities and electrically coupled to the circuitry via the metal layers. See Carson at Abstract.

Nevertheless, Carson does not disclose or suggest an antenna mounted on a top layer of a display. As discussed above, Katsura and Wood do not disclose or suggest an antenna mounted on a top layer of a display. Therefore, any combination of Katsura, Wood and Carson also would not disclose or suggest an antenna mounted on a top layer of a display. Consequently, the present claims are patentable over Katsura and Wood in view of Carson.

Claims 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Katsura in view of Wood and further in view of Narayanaswamy et al. (U.S. Patent No. 5,905,467). Applicants submit that the present claims are patentable over Katsura and Wood even in view of Narayanaswamy.

Narayanaswamy discloses a wireless communication terminal that includes a first housing section having an antenna for enabling wireless communications with the terminal and a second housing section including a second communications antenna. The second housing section is extendibly connected to the first housing in a manner such that when the second housing section is in its extended position the second antenna is located one half wavelength from the first antenna. One or both of the antennas may be a fixed type, e.g., a whip or stub, or a retractable type, e.g., telescoping. The antennas may be located external or may be internal (e.g., patch type antennas) to the housing sections. See Narayanaswamy at Abstract.

However, Narayanaswamy does not disclose or suggest an antenna mounted on a top layer of a display. As discussed above, Katsura and Wood do not disclose or suggest an antenna mounted on a top layer of a display. Therefore, any combination of Katsura, Wood and Narayanaswamy also would not disclose or suggest an antenna mounted on a top layer of a display. Consequently, the present claims are patentable over Katsura and Wood in view of Narayanaswamy.

Claims 22-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Katsura in view of Wood et al. in view of Carson et al. as applied to claim 21, and further in view of Zuckerman (U.S. Patent No. 5,802,463). Applicants submit that the present claims are patentable over any combination of Katsura, Wood, Carson and Zuckerman.

Zuckerman discloses a very low intermediate frequency (IF) transceiver for use in a wireless LAN, cellular telephone, cordless telephone, and other radio transceiver applications. The transceiver directly down-converts the RF signal to lower frequency such as a very low IF signal, which can be handled by transceiver components advantageously integrated with the communication control system such as an MAC or serial communications controller. See Zuckerman at Abstract. However, Zuckerman does not disclose or suggest an antenna mounted on a top layer of a display.

As discussed above, Katsura, Wood and Carson all fail to disclose or suggest an antenna mounted on a top layer of a display. Therefore, any combination of Katsura, Wood, Carson and Zuckerman also would not disclose or suggest an antenna mounted on a top layer of a display. Consequently, the present claims are patentable over the combination of Katsura, Wood, Carson and Zuckerman.


Applicants submit that the rejections have been overcome, and that the claims are in condition for allowance. Accordingly, applicants respectfully request the rejections be withdrawn and the claims be allowed.

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Mark L. Watson
Reg. No. 46,322

12400 Wilshire Boulevard
7th Floor
Los Angeles, California 90025-1026
(303) 740-1980